

REMARKS/DISCUSSION OF ISSUES

The Examiner is respectfully requested to acknowledge acceptance of the drawings.

Claims 1-19 and 31-36 are pending in the application. Claims 1-19 and 31-36 are rejected.

Claims 20-29 have been withdrawn. In listing the withdrawn claims, Applicant realized that the Examiner's previous numbering of the claims was correct. Thus, the pending claims should be numbered 1-19 and 30-35, instead of 1-19 and 31-36. However, in order to avoid further confusion, this response uses the same numbering used in the Office action. Applicant apologizes for any inconvenience which this confusion may have caused.

Claims 1-19 and 31-36 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Van Vliet et al, U.S. 5,973,453 in view of Krasko et al, U.S. 5,694,002.

The Examiner states that Applicant's previous remarks are moot in view of the new grounds of rejection. However, the same references are applied in the same way; no new references have been applied. The only difference between the old and new rejection appears to be that the new rejection applies to claims 1-19 and 31-36, instead of to claims 1-19.

Thus, Van Vliet et al. is said to disclose the claimed invention except for a luminous efficacy up to about 85-95 lumens/watt, and Krasko et al. is said to show a metal halide lamp with a luminous efficacy of about 90 lumens/watt.

With respect to claim 1 and its dependent claims 2 and 36, claim 1 specifies the salt mixture present in the discharge vessel, i.e., sodium iodide, calcium iodide, thallium iodide and one or more rare earth iodides. The salt mixture is

specially designed for the power range and arc tube geometry used for this product family.

Neither of the applied references teach or suggest such a salt mixture.

Van Vliet teaches a mixture of sodium iodide and cerium iodide. See, e.g., col. 2, line 20. Krasko teaches a fill including the halides of sodium, scandium, lithium, dysprosium and thallium. See, e.g., col. 1, lines 63 and 64. Van Der Leeuw teaches a mixture of sodium iodide and scandium iodide. See, e.g., col. 7, line 44.

While the prior art mixtures all contain a sodium halide, none teach or suggest calcium iodide or the particular combination of iodides of sodium, calcium, thallium and at least one rare earth taught and now claimed by Applicant.

Accordingly, it is urged that claims 1, 2 and 36 are patentable over the teachings of the applied references, and that the rejection is in error and should be withdrawn.

With respect to claim 3 and its dependent claims 4-16, these claims are directed to structural limitations related to the discharge vessel, and specifically to the arc tube and the associated four-part feedthrough assembly.

Neither of the cited references teach or suggest such a lamp having a four-part lead through assembly.

Van Vliet teaches a ceramic metal halide discharge lamp having a three-part leadthrough assembly including a Nb lead-in (40,50), a Mo/alumina cermet (41,51) and a refractory electrode (4,5) including a coil (4c,5c).

Krasko teaches a metal halide lamp having a quartz discharge tube rather than a ceramic discharge tube. Regarding the assertion that Krasko discloses the use of metal halides in a 'ceramic quartz' vessel, this is not a term of art. Ceramic

and quartz vessels are distinct entities having significantly different characteristics. For a discussion of the differences between quartz and ceramic discharge lamps, see the first paragraph of the Background of the Invention section bridging pages 1 and 2 of Applicant's specification. Moreover, Krasko is concerned with the chemical fill inside the discharge space, and teaches nothing with respect to the composition of the electrical leads (26,28).

Accordingly, neither of the cited references teach or suggest, alone or in combination, a ceramic discharge lamp with a four-part feedthrough assembly, and claim 3 and its dependent claims 4-16 are patentable over Van Vliet in view of Krasko. Accordingly, it is urged that the rejection is in error and should be withdrawn.

With respect to claims 17-19, neither of the cited references teach or suggest, alone or in combination, the design space parameters claimed.

With respect to claims 31-33, neither of the cited references teach or suggest, alone or in combination, the particular combinations of CCT (correlated color temperature), CRI (color rendering index), MPCD (mean perceptible color difference), luminous efficacy, lumen maintenance, color temperature shift and lifetime for a lamp within the power range of about 150W to about 1000W.

With respect to claims 34 and 35, neither of the cited references teach or suggest, alone or in combination, the particular combination of one or more of a characteristic selected from the group consisting of CCT (correlated color temperature), CRI (color rendering index), MPCD (mean perceptible color difference), and luminous efficacy, for a discharge lamp whose arc tube has an aspect ratio (IL/ID) in

the range of about 3.3 to about 6.2.

Accordingly, it is urged that claims 1-19 and 31-36 are patentable over the combination of Van Vliet et al. and Krasko et al. and that therefore the rejection is in error and should be withdrawn.

Claims 3-16 stand finally rejected under 35 U.S.C. 103(a) as being unpatentable over Van Vliet et al, U.S. 5,973,453 in view of Van Der Leeuw et al, U.S. 5,532,543.

The Examiner states that Applicant's previous remarks are moot in view of the new grounds of rejection. However, the same references are applied to the same claims in the same way; no new references have been applied.

As already stated, Van Vliet teaches a ceramic metal halide discharge lamp having a three-part lead through assembly including a Nb lead-in (40,50), a Mo/alumina cermet (41,51) and a refractory electrode (4,5) including a coil (4c,5c).

Van Der Leeuw, like Krasko, discloses a quartz metal halide lamp, not a ceramic metal halide lamp. See, e.g., col. 5, line 29. Moreover, Van Der Leeuw shows a feedthrough assembly (see, e.g., Fig. 3) which includes a feedthrough of Mo wire connected to an electrode 15 of conventional design. See col. 5, line 46 and col. 6, lines 52, 53.

Accordingly, neither of the cited references teach or suggest, alone or in combination, a ceramic discharge lamp with a four-part feedthrough assembly, and claim 3 and its dependent claims 4-16 are patentable over Van Vliet in view of Van Der Leeuw. Accordingly, it is urged that the rejection is in error and should be withdrawn.

In view of the foregoing, Applicant respectfully requests that the Examiner withdraw the rejection of record, allow all

Amendment/Response

Reply to FINAL Office action of 9 September 2003

of the pending claims, and find the application to be in  
condition for allowance.

Respectfully submitted,

A handwritten signature in cursive script that reads "John C. Fox". The signature is written in dark ink and is positioned above a horizontal line.

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